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REMARKS

In the present Final Office Action, claims 33-113 were examined. Claims 33-37, 52-62, 91-97, 112 and 113 remain rejected by the Examiner. Claims 38-51, 63-90 and 98-111 remain objected to and no claims were allowed.

By this Response claims 33, 54, and 93 have been amended, as the Examiner suggested. No claims have been canceled, and no new claims have been added. Accordingly, claims 33 to 113 are presented for further examination. No new matter has been added. By this Amendment, claims 33-113 are believed to be in condition for allowance.

Rejections under 35 USC §102(e) and 103(a)

In the present office action, the Examiner rejected claims 33-37 and 93-97 under 35 U.S.C. §102(e) as being anticipated by Maehara et al. (U.S. Patent No. 6,075,715). In making this rejection, the Examiner stated the following:

“Applicant’s arguments filed in February 3, 2005 have been fully considered but they are not persuasive. Applicant stated in the REMARKS section, page 24 that “In contrast, Figs. 11, 14, 17 and 20 of the present specifications and appropriate claims 33, 34, 35, 93, 94 and 95 of the present invention are directed to circuit of load 5 comprising resistance and smoothing inductance connected in series.” However, there is nowhere in the claims (33, 34, 35, 93, 94 and 95) that said “load (5) comprises resistance and smoothing inductance connected in series.” It merely stated load (5). And likewise regarding to DC power supply claimed.

Accordingly, claims 33-37 and 93-97 remain rejected under 35 U.S.C. 102(e) as being anticipated by Maehara et al.

Accordingly, claims 52-62, 91, 92, 112, 113 remain rejected under 35 U.S.C. 103(a) as being anticipated by Maehara et al.”

Applicant respectfully traverses this rejection for the following reasons.

At the Examiner’s suggestion, Applicant has amended claims 33 and 93, to include load (5) as comprising resistance and smoothing inductance connected in the series, therefore all dependent claims 34, 35, 94, 95 should be in order for allowance.

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As previously mentioned in the Response dated January 7, 2004, to an earlier Office Action, wherein the Examiner made a similar rejection under 35 U.S.C. §103(b), Maehara et al. differs from the present claims in many ways.

There are huge differences in the principle of the operation between circuits described in Maehara et al. and the boost bridge amplifier of claims 33-37 and the boost bridge amplifier of claims 93-97. For example, one resonant circuit of Maehara et al. is formed from the load circuitry (3) reflected to primary of the transformer T1, primary of the transformer T1 and the second capacitor C2 of small value, through switch Q2 and diode D2, or through the first capacitor C1, switch Q1 and diode D1. (See claim 1 of the reference.)

Another resonant circuit of Maehara et al. is formed from the load circuitry (3), the inductance circuit and the second capacitor C2 of small value, through switch Q2 and diode D2, or through the first capacitor C1, switch Q1 and diode D1. (See claim 2.)

Furthermore, Fig. 7 and Fig. 8 of Maehara et al. disclose timing diagrams with extremely variable capacitor C2 voltage VC2, due to the operation in resonance.

In contrast, Figs. 11, 14, 17 and 20 of the present specifications and appropriate claims 33, 34, 35, 93, 94 and 95 of the present invention are directed to circuit of load (5) comprising resistance and smoothing inductance connected in the series.

In addition, the power supply 1 of the present invention is a DC power supply with constant voltage which is contrary to extremely variable capacitor C2 voltage VC2, used in Maehara et al.

Therefore, it is quite clear that the operation of claimed boost bridge amplifier of the present invention is free from any resonances utilized in Maehara et al. It should be noted that the ordinary skilled artisan in this field of power electronics would clearly recognize the differences between resonant (as illustrated by Maehara et al.) and non-resonant converters (such as the present invention). This demarcation is shown in the following book: Ned Mohan, Tore M. Undeland, William P. Robbins; "Power Electronics: Converters, Applications and Design";

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3rd Edition, John Wiley and Sons, October 2002. Note that this book has separate chapters directed to these two different types of converters (see Chapters 8 and 9).

Stated another way, independent claims 33 and 93 of the present application utilize less number of elements to operate than Maehara et al. Furthermore, neither one of circuits disclosed in Maehara et al. will operate with DC power source (1) alone, since all of them require an additional element: the capacitor C2 of small value. Therefore, claims 33-37, 93-97 are not anticipated by Maehara et al., and are patentable together with claims 112 and 113 are patentable.

Since Maehara et al. requires at least one additional element to operate and has completely different operating principle in comparison with our invention, this difference alone should be sufficient to grant this U.S. Patent.

First, the arguments made in response to previous rejection are also applicable here.

Present claims 52, 91 and 113 are limited to a dual voice coil loudspeaker as load (5). This type of load provides special effects on the power supply (1) current and generated average force, disclosed in the description (see page 11, lines 1 to 17 of underlying PCT Appl. WO01/01554). Since these effects cannot be provided by Maehara et al., claims 52, 91 and 112 should not be rejected as being obvious over its teachings for this reason alone.

Present claims 53, 92 and 113 also are limited to three-phase electric motor as load (5). This type of load provides special effects on power supply (1) current and generated average force, disclosed in the description (see page 12, lines 17 to 31, and page 13, lines 1 to 3 of WO01/01554). Since these effects cannot be provided by Maehara et al., claims 53, 92 and 113 should not be rejected as being obvious.

Present claims 36, 37, 57, 60, 61, 62, 96 and 97 circuits described in claims 35, 34, 56, 59, 58, 55, 95 and 94, are further limited utilization of semiconductor switches as active switches. Since claims 36, 37, 57, 60, 61, 62, 96 and 97 are dependent upon, respectively, and those dependent claims incorporate those unobvious features that should not be rejected.

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Applicant is pleased to see that claims 38-51, 63-90 and 98-111 are allowable. At the present time, for cost considerations, Applicant will not make claims 38, 63 and 98 into independent claims at this time.

Accordingly, Applicant submits that the cites referenced, does not anticipate or make obvious the invention as presently claimed and that the application is now in condition for allowance. Therefore, Applicant respectfully requests reconsideration and further examination of the application and the Examiner is respectfully requested to take such proper actions so that a patent will issue herefrom as soon as possible.

If the Examiner has any questions or believes that a discussion with Applicant's attorney would expedite prosecution, the Examiner is invited and encouraged to contact the undersigned at the telephone number below.

Please apply any credits or charge any deficiencies to our Deposit Account No. 23-1665.

Respectfully submitted,
Milan Prokin et al.



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